axon'

CABLE & INTERCONNECT

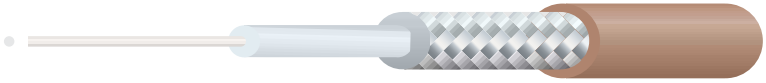
Coaxial cables

COAXIAL CABLES

Uses of coaxial cables extend to every application in which a signal must have a minimum distortion and attenuation or where elimination of external interference plays a leading part.
The use of a coaxial cable helps to prevent many of the problems created by bifilary wires : the twin conductor construction of coaxials (central conductor and shield) separated by a dielectric prevents the reception of outside interference, and at the same time, the loss of the electromagnetic wave.
Different types of coaxials are determined by the materials employed (conductors and dielectrics), the outer diameter, the characteristic impedance, the capacitance, the attenuation and the frequency range.
The most widely used coaxial cables are those according to the American norm MIL-C-17, the RG (Radio Frequency Government) references and the French norm NF-C 93550, KX references.

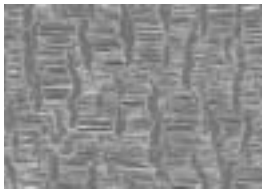
CONSTRUCTION

AXON' coaxial cables can be composed of the following materials :



CONDUCTOR :	DIELECTRIC* :	SCREEN :	SHEATH*:
- Copper covered steel	- Solid PTFE	Silver plated	- PTFE
- Silver plated copper	- CELLOFLON ®	annealed	- ETFE
- Silver plated copper alloy	- FEP	copper	- FEP - PFA

CELLOFLON ®



for small, flexible, high performance coaxial cables

AXON' has taken out a patent on CELLOFLON® (porous PTFE). This material presents an 80% porosity, a density of 0.42 and a dielectric constant of 1.18 (solid PTFE : density = 2.2 - dielectric constant = 2.1).
The use of CELLOFLON® helps to manufacture lighter, smaller, more flexible cables with better electrical characteristics. As the dielectric constant will be lower, there will be less losses, and the cut-off frequency and the velocity of propagation will be higher.

* PTFE = Polytetrafluorethylene
ETFE = Ethylenetetrafluorethylene
FEP = Fluorethylenepropylene
PFA = Perfluoralkoxy
CELLOFLON® = porous PTFE

TECHNICAL GLOSSARY

CHARACTERISTIC IMPEDANCE

Term representing the relation between the voltage and current in a cable of supposedly infinite length. There are three main classes of characteristic impedance for coaxial cables : 50 Ω, 75 Ω and 95 Ω. The formula defining characteristic impedance may be written as follow :

$$z_c = \frac{138{,}2}{\sqrt{\epsilon}} \cdot \mathrm{Log}_{10} \frac{D}{d} \text{ in } \Omega$$

CAPACITANCE

Property of a coaxial cable to store electric charge when a difference in potential energy exists between the two conductors. This will depend on the geometry of the cable and on the nature of the insulation and may be defined as follows : in pF/m

$$c = \frac{24{,}12 \cdot \epsilon}{\mathrm{Log}_{10} \frac{D}{d}} \text{ or } \frac{3326 \cdot \sqrt{\epsilon}}{Z_C} \text{ in pF/m}$$

PROPAGATION VELOCITY

This is the propagation velocity of electromagnetic waves in the dielectric. This velocity depends on the dielectric constant and may be expressed as follows :

$$v_p = \frac{1}{\sqrt{\epsilon}} \text{ in \% of the speed of the light}$$

Ex. : solid polyethylene v_p = 66 %
solid PTFE v_p = 69 %

As the dielectric constant of an insulation is a direct function of the nature of this insulation, in order to increase the propagation velocity we must decrease the dielectric constant and bring it as close as possible to the dielectric constant of air (ϵ= 1).

Ex. : dielectric constant of ETFE = 2,6
PTFE = 2,1
Celloflon® = 1,3 to 2,1

ATTENUATION

Attenuation is the sum of losses in the conductor and in the dielectric which determines the exponential loss occuring to a signal during a transmission in a cable. Attenuation may be expressed as follows :

$$A = \frac{1{,}43\ R}{z_c} + 9{,}15 \cdot \sqrt{\epsilon} \cdot f \cdot F$$

in dB/100 m

where

$$R = 25{,}4 \left(\frac{1}{d} + \frac{1}{D} \right) \cdot \sqrt{f}$$

D = diameter of dielectric in mm
d = diameter of central conductor in mm
ϵ = dielectric constant
z_c = characteristic impedance of the dielectric in Ω
c = capacitance in pF/m
v_p = propagation velocity in % of the speed of light
A = attenuation in dB/100 m
R = conductor resistance at a frequency f
F = loss factor tg ∂
f = frequency in MHz

APPLICATIONS

Coaxial cables are used in many different application fields, e.g. :

- aerospace industry,
- telecommunications,
- radio / television,
- video systems,
- various types of measuring equipment,
- computer systems,
- medical devices : scanners, imaging equipment,
- military equipment and armament systems.

ADVANTAGES

AXON's coaxials present numerous advantages :

- low dielectric constant of the dielectric,
- low losses,
- weight and space saving,
- high temperature resistance,
- excellent mechanical resistance,
- remarkable chemical inertness,
- good ageing characteristics,
- flexibility.

PACKAGING

Individually packed assemblies or on spools according to the cable required.

CONTROL PROCEDURE

- dimensional test,
- characteristic impedance test,
- capacitance test,
- attenuation test.

TECHNICAL BACK-UP

AXON' can also supply coaxials already terminated. This facilitates installation and represents considerable time saving for the customer. These complete cable assemblies are delivered with a quality control and / or conformance certificate as an added guarantee for our customers.
AXON's Research and Design Department uses CAD- work stations to create any customer specification.

CUSTOMER BUYING GUIDE

The items listed below are absolutely essential for us to be able to provide you with the answer to your requirements :

- operating temperature,
- degree of non flammability,
- impedance,
- capacitance,
- maximum permitted attenuation at a given frequency,
- type of connector used,
- application.

SINGLE SCREEN

- Composition :
- Conductor :
- silver plated copper covered soft steel,
- silver plated copper covered hard steel,
- silver plated annealed copper.
- Dielectric : extruded PTFE,
- Propagation velocity : 69 %.
- Screen : silver plated annealed copper.
- Sheath : light brown or white extruded FEP outer jacket.

FEP SHEATH

CABLE REFERENCE	CONDUCTOR			DIELECTRIC		SCREEN	OUTER SHEATH		MAX. WEIGHT (g/m)	z_c (Ω)	MAX. CAPACITANCE (pF/m)	MAX. ATTEN. AT 400 MHz (dB/m)	CONNECTOR SERIES USED
	MATERIAL	CON-STRUCTION	NOM. Ø (mm)	MATERIAL	NOM. Ø (mm)	MATERIAL	MATERIAL	MAX. Ø (mm)					
M17/93-RG 178(*) or KX 21 A (**)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	FEP	1.90	9.30	50	105	1.08	BNC-N-SM-SMA-SMB-SMC
M17/94-RG 179(*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	1.60	SPC	FEP	2.66	16.07	75	75.5	0.69	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS
M17/95-RG 180(*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	2.60	SPC	FEP	3.68	29.46	95	57	0.55	BNC-C-MHV-N-SM-SMA-SMB-SMC-SMD-TNC-TPS
M17/110(*) RG 302/U	SCWH	1 x 0.64	0.64	EXTRUDED PTFE	3.70	SPC	FEP	5.25	59.52	75	72	0.26	BN-BNC-C-HN-MHV-N-QDS-SC-SM-SMA-TNC-TPS-UHF
M17/111-RG 303(*) M17/170-00001	SCWH	1 x 0.94	0.94	EXTRUDED PTFE	2.95	SPC	FEP	4.44	58.03	50	105	0.28	BN-BNC-C-HN-MHV-N-SC-SM-SMA-TNC-TPS-UHF
M17/113-RG 316(*) or KX 22 A (**)	SCWS	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	FEP	2.59	18.15	50	105	0.69	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS
M17/169-00001(*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	WHITE FEP	1.90	9.30	50	105	1.08	BNC-N-SM-SMA SMB-SMC
M17/172-00001(*)	SCWS	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	WHITE FEP	2.59	17.11	50	105	0.68	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS
RG 400 ST	SPC	19 x 0.20	0.97	EXTRUDED PTFE	2.95	SPC	FEP	4.20	AVERAGE 42.00	50	NOM. 96	0.40	BMA-BN-BNC-C-HN-MHV-N-SM-SMA-TNC-TPS-UHV

(*) equivalent to MIL-C-17, (**) equivalent to NF-C-93550

SINGLE SCREEN

• Composition :
• Conductor :
- silver plated copper covered soft steel,
- silver plated copper covered hard steel.
• Dielectric : extruded PTFE,
• Propagation velocity : 69 %.
• Screen : silver plated annealed copper.
• Sheath : white taped PTFE.

• Characteristics :
Excellent resistance to soldering iron.

PTFE SHEATH

CABLE REFERENCE	CONDUCTOR			DIELECTRIC		SCREEN	OUTER SHEATH		AVERAGE WEIGHT (g/m)	z_c (Ω)	MAX. CAPACITANCE (pF/m)	MAX. ATTEN. AT 400 MHz (dB/m)	CONNECTOR SERIES USED
	MATERIAL	CON-STRUCTION	NOM. Ø (mm)	MATERIAL	NOM. Ø (mm)	MATERIAL	MATERIAL	MAX. Ø (mm)					
RG 187 A/U	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	1.60	SPC	TAPED PTFE	2.79	16.20	75	72.5	0.69	BMA-BNC-MHV-N-SM-SMA-SMB-SMC-SMD-TNC-TPS
RG 188/U	SCWH	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	TAPED PTFE	2.79	16.20	50	105	0.69	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS
RG 188 A/U	SCWS	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	TAPED PTFE	2.79	16.20	50	105	0.69	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS
RG 195/U	SCWH	7 x 0.10	0.30	EXTRUDED PTFE	2.60	SPC	TAPED PTFE	3.93	28.70	95	51	0.55	BNC-C-MHV-N-SM-SMA-SMB-SMC-SMD-TNC-TPS
RG 195 A/U	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	2.60	SPC	TAPED PTFE	3.93	28.70	95	51	0.55	BNC-C-MHV-N-SM-SMA-SMB-SMC-SMD-TNC-TPS
RG 196/U	SCWH	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	TAPED PTFE	2.03	9.00	50	105	0.95	BNC-N-SM-SMA-SMB-SMC-SMD-TNC
RG 196 A/U	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	TAPED PTFE	2.03	9.00	50	105	0.95	BNC-N-SM-SMA-SMB-SMC-SMD-TNC

SINGLE SCREEN

- Composition :
- Conductor :
  silver plated copper covered soft steel.
- Dielectric : extruded PTFE,
- Propagation velocity : 69 %.
- Screen : silver plated annealed copper.
- Sheath : light brown extruded PFA.

PFA SHEATH

REFERENCE	CONDUCTOR			DIELECTRIC		SCREEN	OUTER SHEATH		MAX. WEIGHT (g/m)	z_c (Ω)	MAX. CAPACITANCE (pF/m)	MAX. ATTEN. AT 400 MHz (dB/m)	CONNECTOR SERIES USED
	MATERIAL	CON-STRUCTION	NOM. Ø (mm)	MATERIAL	NOM. Ø (mm)	MATERIAL	MATERIAL	MAX. Ø (mm)					
M17/93-00001 (*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	EXTRUDED PFA	1.90	9.30	50	105	1.08	BNC-N-SM-SMA-SMB-SMC-
M17/136-00001 (*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	1.60	SPC	EXTRUDED PFA	2.66	17.85	75	72	0.69	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS
M17/137-00001 (*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	2.60	SPC	EXTRUDED PFA	3.68	29.76	95	51	0.56	BNC-C-MHV-N-SM-SMA-SMB-SMC-SMD-TNC-TPS
M17/138-00001 (*)	SCWS	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	EXTRUDED PFA	2.59	18.15	50	105	0.68	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS

(*) equivalent to MIL-C-17

DOUBLE SCREEN

• Composition :
• Conductor :
- silver plated copper covered soft steel,
- silver plated copper covered hard steel,
- silver plated annealed copper.
• Dielectric : extruded PTFE,
• Propagation velocity : 69 %.
• Screen : silver plated copper.
• Sheath : light brown extruded FEP.

COAXIALS WITH FEP SHEATH

CABLE REFERENCE	CONDUCTOR			DIELECTRIC		SCREEN		OUTER SHEATH		MAX. WEIGHT (g/m)	z_c (Ω)	MAX CAPACI-TANCE (pF/m)	MAX. ATTEN. at 400 MHz (dB/m)	CONNECTOR SERIES USED
	MATERIAL	CON-STRUCTION	NOM. Ø (mm)	MATERIAL	NOM. Ø (mm)	1	2	MATERIAL	MAX. Ø (mm)					
M17/60 RG 142 (*)	SCWH	1 x 0.94	0.94	EXTRUDED PTFE	2.95	SPC	SPC	EXTRUDED FEP	5.08	83.33	50	105	0.38	BMA-BN-BNC-C-HN-MHV-N-SC-SM SMA-TNC-TPS-UHF
M17/158 00001(*)														
M17/128 RG 400 DT (*)	SPC	19 x 0.20	0.97	EXTRUDED PTFE	2.95	SPC	SPC	EXTRUDED FEP	5.08	74.40	50	105	0.34	BMA-BN-BNC-C-HN-MHV-N-SM SMA-TNC-TPS-UHV
M17/175 00001(*)														
M17/152 00001 (*)	SCWS	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	SPC	EXTRUDED FEP	2.99	27.53	50	105	0.78	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS

(*) equivalent to MIL-C-17

DOUBLE SCREEN

• Composition :
• Conductor :
- non magnetic silver plated copper alloy,
- silver plated annealed copper.
• Dielectric : extruded PTFE,
• Propagation velocity : 69%
• Shield : silver plated annealed copper
• Inner sheath : extruded FEP
• Outer sheath : light brown extruded FEP.

• Characteristics :
- Better mechanical protection in a flexible cable.
- The “screen-sheath-shield” construction assures a much better electrical shielding than two sheathed screens.

• Applications :
- All equipment where outside interference must be minimized.
- Propagation of two different signals,

E.g. : Probe leads,
Transducer leads.

TRIAXIAL CABLES

CABLE REFERENCE	CONDUCTOR			DIELECTRIC		FIRST SCREEN	INTERNAL SHEATH	SECOND SCREEN	OUTER SHEATH		AVERAGE WEIGHT (g/m)	z_c (Ω)	NOM. CAPACITANCE (pF/m)		MAX. ATTEN. at 400 MHz (dB/m)	CONNECTOR SERIES USED
	MATERIAL	CONSTRUCTION	NOM. Ø (mm)	MATERIAL	NOM. Ø (mm)	MATERIAL	MATERIAL	MATERIAL	MATERIAL	MAX. Ø (mm)			COND./ SCREEN	SCREEN/ SCREEN		
SM X 50	SPTF	1 x 0.16	0.16	EXTRUDED PTFE	0.52	SPC	EXTRUDED FEP	SPC	EXTRUDED FEP	1.70	6.80	50	96	480	-	TRIAXIAL CONNECTORS
RG X 179	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	1.60	SPC	EXTRUDED FEP	SPC	EXTRUDED FEP	3.80	31.60	75	66	530	0.69	TRIAXIAL CONNECTORS
RG X 180 M17/177-00001 (*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	2.60	SPC	EXTRUDED FEP	SPC	EXTRUDED FEP	4.80	50.80	95	MAX. 57	980	0.56	TRIAXIAL CONNECTORS
RG X 316	SCWS	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	EXTRUDED FEP	SPC	EXTRUDED FEP	3.70	32.20	50	96	490	0.69	TRIAXIAL CONNECTORS
RG X 400	SPC	19 x 0.20	0.97	EXTRUDED PTFE	2.95	SPC	EXTRUDED FEP	SPC	EXTRUDED FEP	5.40	67.20	50	96	798	0.28	TRIAXIAL CONNECTORS
M17/131 RG 403 (*)	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	EXTRUDED FEP	SPC	EXTRUDED FEP	3.25	22.30	50	96	MAX. 525	0.95	TRIAXIAL CONNECTORS

(*) equivalent to MIL-C-17

SPC = Silver plated annealed copper
SCWS = Silver plated copper covered soft steel
SPTF = Non magnetic silver plated copper alloy,
SCWH = Silver plated copper covered hard steel

• Composition :
• Conductor :
- non magnetic silver plated copper alloy,
- silver plated copper covered soft steel.
• Dielectric : extruded PTFE / graphite,
• Propagation velocity : 69 %.
• Screen : silver plated copper.
• Sheath : outer jacket made of wrapped and sealed white PTFE excepted :
- SM L 50 (wrapped and sealed blue PTFE outer jacket)
- RG 404 (extruded light brown FEP outer jacket.

• Characteristics :
- The application of a semiconducting layer of graphite between the core and the screen enables a decrease in audio noise due to oscillations, vibrations, etc., in some cases by as much as 2000 times.
- This semiconducting layer does not change the dielectric properties of the cable.
- The cable also has excellent soldering properties (except M 17/132 - RG 404).

• Applications :
- high gain audio amplifiers,
- piezoelectric components,
- accelerometers,
- magnetic recording heads,
- oscilloscope probes.

LOW NOISE COAXIALS

CABLE REFERENCE	CONDUCTOR			DIELECTRIC		SCREEN	OUTER SHEATH		AVERAGE WEIGHT (g/m)	z_c (Ω)	MAX. CAPACITANCE (pF/m)	AVERAGE ATTEN. AT 400 MHz (dB/m)	CONNECTOR SERIES USED
	MATERIAL	CON-STRUCTION	NOM. Ø (mm)	MATERIAL	NOM. Ø (mm)	MATERIAL	MATERIAL	MAX. Ø (mm)					
SM L 50	SPTF	1 x 0.16	0.16	EXTRUDED PTFE	0.52	SPC	TAPED PTFE	1.10	3.00	50	97 NOM.	1.1 NOM. (A 200 MHz)	SUBMINIATURE CONNECTORS
RG L 187	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	1.60	SPC	TAPED PTFE	2.79	16.20	75	72.5	0.90	BMA-BNC-MHV-N-SM-SMA-SMB-SMC-SMD-TNC-TPS
RG L 188	SCWS	7 x 0.17	0.51	EXTRUDED PTFE	1.52	SPC	TAPED PTFE	2.79	16.20	50	105	0.90	BMA-BNC-MHV-N-SMA-SMB-SMC-SMD-TNC-TPS
RG L 195	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	2.60	SPC	TAPED PTFE	3.93	28.70	95	51	0.65	BNC-C-MHV-N-SM-SMA-SMB-SMC-SMD-TNC-TPS
RG L 196	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	TAPED PTFE	2.03	9.00	50	105	1.10	BNC-N-SM-SMA-SMB-SMC-SMD-TNC
M 17/132 RG 404	SCWS	7 x 0.10	0.30	EXTRUDED PTFE	0.85	SPC	EXTRUDED FEP	1.95	8.30	50	105	1.64	TNC

• Composition :
• Conductor : non magnetic silver plated copper alloy, single stranded wire.
• Dielectric : extruded PTFE (or FEP),
• Propagation velocity : 69 %.
• Screen : silver plated annealed copper, 90 % coverage.
• Sheath : light brown FEP jacket.

• Characteristics :
- extremely small diameter,
- excellent flexibility,
- perfect primary wire for multiconductor coaxial cables.

• Applications :
- medical equipment,
- audio equipment,
- satellites,
- miniature equipment.

SUBMINIATURE COAXIALS

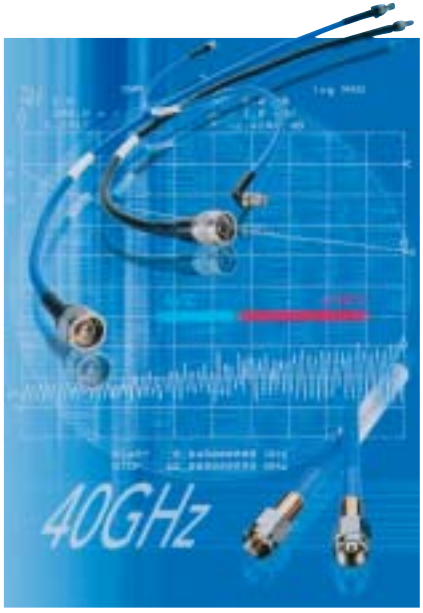
CABLE REFERENCE	CONDUCTOR			DIELECTRIC		SCREEN	OUTER SHEATH		AVERAGE WEIGHT (g/m)	z_c (Ω)	NOM. CAPACITANCE (pF/m)	AVERAGE ATTEN. AT 200 MHz (dB/m)	CONNECTOR SERIES USED
	MATERIAL	CON-STRUCTION	NOM. Ø (mm)	MATERIAL	NOM. Ø (mm)	MATERIAL	MATERIAL	MAX. Ø (mm)					
SM 50	SPTF	1 x 0,160	0,16	PTFE (or FEP)	0,52	SPC	FEP	1,05	2,90	50	97	1,10	SUBMINIATURE CONNECTORS
SM 75	SPTF	1 x 0,102	0,10	PTFE (or FEP)	0,55	SPC	FEP	1,10	2,90	75	67	1,00	SUBMINIATURE CONNECTORS
SM 95	SPTF	1 x 0,102	0,10	PTFE (or FEP)	0,86	SPC	FEP	1,50	4,80	95	51	0,60	SUBMINIATURE CONNECTORS

SPC = Silver plated annealed copper
SCWS = Silver plated copper covered soft steel
SPTF = Non magnetic silver plated copper alloy
SCWH = Silver plated copper covered hard steel

SPECIAL VERSIONS

AXOWAVE® FLEXIBLE LOW LOSS MICROWAVE ASSEMBLIES:

The use of CELLOFLON® dielectrics helps to manufacture very low loss microwave assemblies (e.g. AXOWAVE® 8G : ø 8.4 mm, $\alpha \leq 0.85$ dB at 18 GHz) which can be used at high frequencies (up to 40 GHz). These assemblies are terminated with SMA, N, TNC type or metric connectors depending on the type of cable. AXOWAVE® datasheets show the detailed characteristics of the whole standard product range. Any special request can be studied.



PICO-COAX®

- Flexible miniature coaxial cables offering a good compromise between a small diameter (e.g. < 0.2 mm) and a capacitance of 50 to 100 pF/m.
- Laying up of more than 500 PICO-COAX® into MULTIPICO-COAX® cables.
- Manufacture of harnesses : MULTIPICO-COAX® cables can be terminated by different types of connectors.
- Application : e.g. transducer probe cables (medical imaging,…).

For more detailled information, please ask for our “PICO-COAX®“ brochure and data sheets.

COAXIAL CABLES WITH CELLOFLON® DIELECTRIC

Compared to coaxial cables with solid PTFE dielectrics, coaxial cables with CELLOFLON® dielectric are smaller, lighter, have lower losses as well as a higher velocity of propagation and a higher cut-off frequency.

COMPARISON BETWEEN A COAXIAL CABLE WITH SOLID PTFE DIELECTRIC AND A COAXIAL CABLE WITH CELLOFLON® DIELECTRIC (POROUS PTFE)

		STANDARD COAXIAL CABLE	CELLOFLON® COAXIAL CABLE
Conductor	- Material	SCWS	SPC
	- Construction	7 x 0.17	19 x 0.102
	- Diameter (mm)	0.51	0.51
Dielectric	- Material	Solid PTFE	CELLOFLON® (*)
	- Diameter (mm)	1.52	1.35
Shield 1	- Diameter (mm)	0.08	0.08
Shield 2	- Diameter (mm)	0.08	0.0635
Outer jacket	- Material	FEP	FEP
	- max. diameter (mm)	2.70	2.40
Impedance (Ω)		50	50
Capacitance (pF/m)		100	100
Losses (at 200 MHz)(dB/m)		0.50	0.50

(*) Can be stripped on an automatic machine with rotating knives

QUASI-FLEX®

HAND FORMABLE SEMI-RIGID SUBSTITUTE

QUASI-FLEX®, has been designed to replace semi-rigids cables whilst retaining similar electrical performance. The brass tube normally used on these cables has been replaced by an optimised tin-plated braided shield giving QUASI-FLEX® cables excellent memory propterties in addition to ease of installation.

Compared to semi-rigid cables which require tooling for formed applications, QUASI-FLEX® can be hand formed to suit an installation thereby easing integration and maintenance.

axon'

CABLE & INTERCONNECT

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